California Urban Water Conservation Council

COMMENTS OF THE CALIFORNIA URBAN WATER CONSERVATION COUNCIL

CALFED PUBLIC HEARING
September 22, 1999

The California Urban Water Conservation Council is pleased to present its comments on the Revised *Draft EIR/EIS* dated June, 1999. We commend the CALFED process for its consensus-based efforts to resolve the water quality, water supply reliability, and natural resource problems in California's Bay-Delta estuary. We recognize that much work remains to be done. The California Urban Water Conservation Council is here to pledge its assistance and support to CALFED in this process.

The Council was formed by a Memorandum of Understanding, signed in 1991 by over 100 signatories. The purpose of the Memorandum was to establish a commitment on the part of water agencies to undertake a set of "best management practices" for urban water conservation. An outgrowth of the Bay-Delta hearings in the late 1980's, the Memorandum was a joint consensus effort of environmental public advocacy groups and water agencies, all pledging a "good faith effort" to minimize demands on the Delta by pursuing effective demand management and water efficiency opportunities. The sixteen practices adopted in the original document have since been revised to fourteen, and now nearly 250 water agencies, environmental groups and other interested organizations have become signatories to the Council.

The following comments were considered and approved by the Council's full plenary session on September 16, 1999.

Certification

In this Draft EIR/EIS, CALFED is recommending a water use efficiency program that will require water agencies within the solution area to demonstrate compliance with the water conservation BMPs adopted by the Council. CALFED

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is further proposing that the Council be given the responsibility to "certify" the compliance of these water agencies. The Council is here today to reaffirm to CALFED its interest in being that certification entity. Over the past two years we have undertaken a number of projects designed to prepare the Council and its membership for a possible certification role. These include:

1) Analysis of the costs and water savings associated with BMP implementation;
2) Guidelines on determining the cost-effectiveness of BMP programs;
3) Development and testing of a process to review water agency BMP exemptions;
4) Refinement of a reporting process and creation of a database-backed website for the reliable collection and interpretation of water agency BMP implementation data;
5) Creation of a technical assistance program to assist water agencies in BMP program implementation; and
6) Hiring of professional staff.

Funding

A necessary ingredient in any successful CALFED Water Use Efficiency Program will be the provision of adequate funding, both for the Council to administer the certification program, and to assist the water agencies in implementing BMPs. The investments in water conservation contemplated by the CALFED documents are staggering, and these investments by water agencies alone could not possibly be accomplished within the Stage 1 time frame without substantial financial assistance from CALFED and the Legislature to ensure that this water conservation happens. Although many millions of dollars in conservation investment have already been made by many agencies, much more needs to be done, as is indicated in the CALFED EIR/EIS. To promote greater conservation, CALFED should consider investing in BMP programs that are beyond the cost-effective reach of the local water agency -- programs that wouldn't be undertaken at all otherwise, but which have direct benefits to the Bay-Delta. At the same time, CALFED needs to consider equity in the distribution of conservation program funding

Furthermore, timing of the water efficiency funding is a critical issue. For the savings of water efficiency programs in Stage 1 to be measured within the seven-year period, CALFED will need to ensure that the full funding is allocated early, certainly within the first 4-5 years of the program. In our experience, implementing water conservation programs takes 1-2 years for the planning, execution, and evaluation of the program, for even the most experienced agencies. Thus, unless the supplementary funding is made available early, the effects of the water efficiency program may be too late to be evaluated in Stage 1 of the CALFED program.

As CALFED struggles with how to estimate the funding needs of its common programs, the Council stands ready to be of whatever assistance it can in calculating potential program expenditures and in advising on methods of funding distribution.

Wholesaler compliance with water efficiency goals

Any agency or organization, private as well as public, who wholesales water and/or facilitates water transfers, should be subject to the same certification requirements for wholesalers. This is an important fairness issue that should be clarified by CALFED.

Technical Comments

Finally, we have prepared detailed comments on the *Water Use Efficiency Program Plan* that list issues of concern to the Council and its member agencies regarding CALFED's estimates of water conservation savings potential. These comments are attached as a separate memorandum, and cover the following issues of importance to the Council:

- Correspondence between estimates of CALFED-induced conservation savings and WUEP programmatic actions;
- Validity of the No Action Alternative;
- Potential double-counting of BMP water savings;
- Empirical foundation of water saving estimates; and
- Water conservation cost concepts and estimates.

Thank you for giving us the opportunity to comment.

CALFED Draft EIR/EIS: Technical Comments Memorandum

The California Urban Water Conservation Council has reviewed Section 5 (Urban Water Conservation) of CALFED's *Water Use Efficiency Program Plan, Draft EIR/EIS Technical Appendix*, dated June 1999. We specifically examined the statewide and regional estimates of water conservation potential presented by CALFED, and these comments address general concerns and questions regarding these estimates that are of particular interest to the Council and its member agencies.

We fully recognize the extraordinary challenges and difficulties faced by CALFED staff and consultants in preparing estimates of conservation potential for the state. While our comments raise several substantive methodological and empirical concerns surrounding these estimates, for the most part CALFED has made a sincere and credible effort to describe and quantify urban water conservation potential.

We have organized our comments into five areas, as follows:

1. Correspondence between estimates of CALFED-induced conservation savings and WUEP programmatic actions.
2. Validity of the No Action Alternative
3. Potential double-counting of BMP water savings
4. Empirical foundation of water saving estimates
5. Water conservation cost concepts and estimates

CALFED-induced conservation savings and WUEP programmatic actions.

Section 5 presents estimates of incremental water savings achievable by the WUEP. These savings are in addition to those expected to occur in the absence of a CALFED program. The No Action Alternative specifies this "baseline" level of conservation. As we discuss later in this letter, the No Action Alternative assumes full BMP implementation. That is, CALFED assumes that with or without the WUEP urban water suppliers will achieve full BMP implementation. One should thus deduce that the WUEP would extend urban conservation considerably beyond full BMP implementation.

CALFED, however, has not designed the WUEP to achieve this objective. The WUEP's principal urban component, MOU certification, will at most extend BMP implementation across a broad range of urban water suppliers where those

BMPS are cost-effective. The WUEP does not currently identify urban programs that extend conservation beyond full BMP implementation. *There is no obvious linkage between planned programs and expected WUEP savings.* This raises a troubling question. What is the programmatic basis for the WUEP conservation estimates? Can one ascribe savings to the WUEP that extend beyond full BMP implementation when CALFED has not specified the programs necessary to achieve those savings? The final version of the *Water Use Efficiency Program Plan* will certainly benefit from a more explicit linkage between programmatic actions and expected results.

Validity of the No Action Alternative

Our second comment follows from the first. The No Action Alternative assumes full BMP implementation by 2020. The current pace of BMP implementation among urban water suppliers does not support this assumption. While many urban water suppliers have made substantial investments in the BMPs, many others have only just started or have yet to start at all. BMP implementation data gathered to date by the Council does not indicate a trend towards full implementation in the absence of MOU certification. Indeed, achieving full BMP implementation is the primary objective of the WUEP as it relates to urban water suppliers.

This assumption leads to CALFED double counting water savings. Activities associated with BMP implementation provide much of the rationale for CALFED's incremental water savings estimates attributed to the WUEP. Thus, CALFED risks counting BMP savings twice: once under the No Action Alternative, and again under the WUEP. We discuss this in detail in a subsequent comment.

Perhaps most importantly, CALFED does not identify the assumptions and methods used to estimate water savings from full BMP implementation. CALFED draws its estimates from DWR's Bulletin 160-98. Bulletin 160-98 assumes water suppliers will fully implement the BMPs by 2020 "whether or not the BMPs are cost-effective from a water supply standpoint."[1] In other words, DWR assumes the maximum possible savings from BMPs by 2020. While DWR "believes this assumption is reasonable," little in the experience of BMP implementation supports it.[2] Urban water suppliers, as the Council knows first-hand, are very sensitive to cost-effectiveness concerns and are not required to implement BMPs that they perceive are not locally cost-effective. The assumption of full BMP implementation contained in the No Action Alternative ignores these realities. Moreover, the assumption of full implementation is inconsistent with the stated

[1] California Department of Water Resources, "California Water Plan Update," Bulletin 160-98, Vol. 1, page 4-8.
[2] Ibid.

purposes of the WUEP. The goals of the WUEP as they relate to urban water use are:

(1) to achieve broad implementation of locally cost-effective BMPs (through MOU certification), and
(2) to achieve additional implementation of BMPs that, while not locally cost-effective, are cost-effective from a statewide perspective (through financial and technical assistance).

If the No Action Alternative already meets these objectives, then the WUEP as currently designed serves no useful purpose. We do not hold to this view. Rather, the No Action Alternative assumption of full BMP implementation is inappropriate. The WUEP is necessary to make full implementation a reality.

Potential double-counting of BMP water savings

There are multiple instances throughout the *Water Use Efficiency Program Plan* suggesting double counting of BMP water savings. For example, CALFED assumes the WUEP will reduce indoor water use from 60 gpcd, assumed in the No Action Alternative, to 55 gpcd. According to CALFED, this additional reduction

> *can be obtained through measures such as more aggressive interior water audits; use of incentive programs to retrofit residences with low-water-use fixtures; conversion to low-water-use shower heads; and gradual conversion to very efficient appliances in the majority of households, such as horizontal-axis washing machines. (This technology is new to the United States but widely used in other parts of the world, such as Europe and the Middle East.)*[3]

These are BMP activities. The No Action Alternative already counts the water savings from them. Another instance of potential double counting occurs in the discussion of landscape savings.[4] CALFED states:

> *The Water Use Efficiency Program is assumed to result in even greater changes to landscape irrigation and plant types than envisioned under the No Action Alternative condition. These changes would occur through technical, planning, and financial support along with a more concerted effort, through urban agency certification, to implement cost-effective conservation measures.*

Achieving implementation of locally cost-effective BMPs is the purpose of urban agency certification. The No Action Alternative already counts the savings

[3] CALFED, *Water Use Efficiency Program Plan, Draft EIR/EIS Technical Appendix*, June 1999, page 5-11.
[4] Ibid., page 5-16.

attributable to this level of BMP implementation. Moreover, it already counts any additional savings CALFED might achieve through funding programs that are not locally cost-effective, since the No Action Alternative assumes full implementation of BMPs whether or not they are cost-effective.

CALFED falls into the trap of double counting water savings because an explicit linkage between programmatic actions and expected water savings is missing from the analysis. Rather than identify programs and then estimate their potential water savings, CALFED has assumed potential water savings and now is struggling to identify programs that can justify these assumptions. More often than not, it identifies programs associated with BMP implementation. The No Action Alternative, however, has already claimed these water savings. They cannot be counted twice.

Empirical foundation of water saving estimates

The empirical basis is thin for many of the assumptions supporting CALFED's water savings estimates. This is not the fault of CALFED. In many cases, there simply is not good empirical data for conservation activities. Nonetheless, it is important to identify the extent to which CALFED's estimates hinge on weakly supported assumptions.

One important area is the estimates of baseline conservation contained in the No Action Alternative. As previously discussed, these estimates are drawn from DWR's Bulletin 160-98. DWR used the water savings factors contained in Exhibit 1 of the MOU to develop its estimates. As the Council well knows, most of these "factors" are untested empirically. Indeed, the Council is in the midst of compiling water savings data for each BMP to correct this shortcoming. In light of the limitations of the Exhibit 1 estimates, one should view the DWR estimates with caution. The *Water Use Efficiency Program Plan* should make clear the empirical basis underpinning the savings estimate assumed by the No Action Alternative, and emphasize the substantial uncertainty surrounding it.

Several other water savings assumptions used by CALFED deserve scrutiny. For instance, on page 5-14 CALFED states: "DWR estimates that on average, state-wide residential landscaping is currently irrigated at 1.2 times ET."[5] CALFED uses this figure to estimate total savings potential in the landscape sector. CALFED goes on to note that "limited data are available to support this estimate."[6] We are not aware of any data to support this estimate. A statistical analysis of survey data on residential landscape irrigation in Southern California, one of the very few studies that examine residential landscape water use patterns, found that residential landscapes were more likely to be deficit irrigated

[5] Ibid., page 5-14.
[6] Ibid., page 5-14.

than surplus irrigated.[7] While studies have found that active conservation programs can result in significant improvements in residential irrigation efficiencies[8], it is difficult to estimate the total savings potential without knowing baseline water use for landscape irrigation. This data does not currently exist. CALFED addresses some of this uncertainty by distributing landscape acreage across a range of ET factors. In our view, this is a reasonable approach, and certainly preferable to relying on a single point estimate. Nevertheless, CALFED has no empirical evidence from which to base these distributions. By its own admission, they are based on "professional judgement."[9]

The estimates for Commercial, Industrial and Institutional (CII) water savings are equally problematic. They derive solely from a single 1997 EPA study. CALFED provides no detail regarding the design, geographic scope, or methods of this study. The reader must take its validity for granted. CALFED concludes that the CII sector can reduce its baseline water use by 22% -- EPA's estimate of total potential CII savings. CALFED further concludes that BMP implementation and other unspecified actions will result in a 15% reduction by 2020 regardless of WUEP implementation. WUEP implementation will achieve the remaining 7%. As we noted earlier, CALFED has designed the WUEP to achieve full BMP implementation. While this may get the 15% savings, how will it achieve the remaining 7%?

CALFED could further strengthen its analysis by highlighting the very limited (possibly nonexistent) empirical basis for its estimates, and presenting ranges of potential savings to emphasize the degree of uncertainty. By doing so, CALFED will provide the public and policy decision makers a much better basis for assessing the potential for and uncertainty associated with the WUEP.

Water conservation cost concepts and estimates

Our final comment deals with conservation cost concepts and estimates. The cost estimates presented in Figure 5-3 are potentially misleading for several reasons. First, the cost of a conservation activity depends on one's perspective. One could view it from the perspective of the customer participant, the customer non-participant, the utility, or society as a whole. Each perspective results in a different cost estimate. CALFED's presentation does not make this clear. Thus, Figure 5-3 leaves us wondering to whose costs is it referring?

Second, the figure makes no distinction between active and passive conservation. Does passive conservation resulting from changes in technology

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[7] Planning and Management Consultants, Ltd. "Analysis of Residential Landscape Irrigation in Southern California." December 1991.

[8] d.d.Pagano, Inc., et al., "Efficient Turfgrass Management: Findings from the Irvine Spectrum Water Conservation Study." May 1997.

[9] CALFED, *Water Use Efficiency Program Plan, Draft EIR/EIS Technical Appendix*, June 1999, page 5-16.

and socio-economic conditions cost society between $500 to $2000 per acre-foot? Alternatively, is this the average cost to water suppliers accelerating these savings by actively investing in conservation programs? Finally, we cannot emphasize enough that these estimates are not sufficient to judge the economic merit of conservation investments. To judge the merit of a program one must have a feel for both the costs and the benefits. Programs with high costs may have equally high benefits and vice versa. Unit cost estimates tell only half the story. The *Water Use Efficiency Program Plan* needs to make this point clear whenever it presents costs estimates. Otherwise, readers are likely to draw incorrect conclusions about the economic merits of conservation investments.